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Commentary: Usability – A Sensitizing Concept

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In his article “The Usability Construct: A Dead End?”, Tractinsky (*Human-Computer Interaction* VOL [YEAR], PAGES) contends that for scientific research on usability to progress, the usability construct should be unbundled and replaced by well-defined constructs. This contention is presented as the conclusion that follows naturally from taking a scientist’s viewpoint on usability. Similar calls for definitive concepts – constructs in Tractinsky’s terminology – have been made in other scientific fields with concepts as ambiguous as that of usability. But counterarguments have also been presented.

About half way through his 1954 article “What Is Wrong with Social Theory?” (in *American Sociological Review*), Blumer writes: “There still remains what I am forced to recognize as the most important question of all, namely whether definitive concepts are suited to the study of our empirical world.” Tractinsky never considers this question, except by acknowledging that people other than scientists may not need a definitive concept of usability. Blumer’s perspective, however, is unconditionally scientific. His reservations toward definitive concepts follow from the basic observation that concepts are abstractions over empirical instances with a distinctive, particular, and unique character:

“In handling an empirical instance of a concept for purposes of study or analysis we do not, and apparently cannot meaningfully, confine our consideration of it strictly to what is covered by the abstract reference of the concept. We do not cleave aside what gives each instance its peculiar character and restrict ourselves to what it has in common with the other instances in the class covered by the concept. To the contrary, we seem forced to reach what is common by accepting and using what is distinctive to the given empirical stance. In other words, what is common (i.e. what the concept refers to) is expressed in a distinctive manner in each empirical instance and can be got at only by accepting and working through the distinctive expression.”

To researchers in human-computer interaction, Blumer’s argument may evoke Suchman’s analysis of the role of plans in her 1987 book, *Plans and Situated Actions*. Just as plans are underspecified relative to the rich multiplicity of actual action, so concepts are underspecified relative to the rich multiplicity of the empirical instances they model. In both cases the underspecification is deliberate: Concepts and plans are abstractions devised to be applicable across a class of actual instances, each with its unique character. Unless concepts were underspecified, they would only apply to a single empirical instance. In that case the concept would not have the abstract character of a class, its very restricted scope would make it of little interest, and it could not be regarded a proper concept. A proper concept must bring multiple empirical instances together in a class with common distinguishing

features. What constitutes a concept is its classness. It is by representing classes of empirical instances that concepts fulfil their role as mediators between theoretical propositions and practical events. The classness is something beyond the definitive content of empirical instances and, thus, does not follow from them through some process of specification. That is, vagueness relative to the empirical instances is a defining characteristic of concepts. Aiming for definitive concepts does not eliminate this characteristic. In Blumer's words, "the concept continues to be constituted by general sense or understanding and not by specification."

As an alternative to definitive concepts Blumer proposes what he termed sensitizing concepts, which "suggest directions along which to look." That is, they give their users "a general sense of reference and guidance in approaching empirical instances" and lack the precise specification and measurement instruments that are the hallmark of definitive concepts. Paraphrasing Suchman, sensitizing concepts are resources for scientific analysis but do not in any strong sense specify empirical instances. They are open-ended and suggestive in acknowledgement of the need to work with and through the empirical instances to recognize what the concepts refer to. Definitive and sensitizing concepts are both attempts of mediating between theory and practice, but they represent opposing views on what such mediation should accomplish – on what work we want our concepts to do for us.

A definitive concept of usability will employ clear definitions of attributes and provide validated instruments for measurement. These definitions and instruments seek to provide a precise a priori specification of what is common to the empirical instances that can be characterized with the concept of usability. By prescribing the attributes to look for, it becomes more likely that usability remains the same concept across its applications and that it measures the same quality of the use of a system. However, a definitive concept also entails a risk that usability research becomes a formal quest for conceptual precision at the expense of practical relevance, that characteristics consequential to the usability of empirical instances are rendered invisible because they are not among the common features that define the usability concept, or more generally that the a priori specification of the concept obscures the very thing we seek to understand. In addition, the usability concept will remain ambiguous in the sense that there will still be a need for interpretation and common sense in applying it to empirical instances.

Conversely, a sensitizing concept of usability will recognize that what we are referring to by this concept comes about in a different way in each empirical instance. The definition of usability in ISO standard 9241 (Part 210) provides an example. In this standard usability is defined as the "extent to which a system, product or service can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use." Only when the users, their goals, and the context of use are known can we start to investigate how usability comes about. A sensitizing usability concept like this one seeks to guide researchers in appreciating the distinctiveness of the empirical instance, rather than to embalm the instance in the abstract framework of a definitive concept. What counts as satisfaction may differ drastically depending on, for example, whether the context of use is one of work or leisure; the ISO definition leaves this relationship unspecified and merely sensitizes the researcher to the users' satisfaction in the concrete context of use. The risks associated with a sensitizing concept of usability include that its ambiguity may make it a blunt analytic instrument, that the concept takes on different meanings on different occasions, that cross-case comparison becomes hard, and more generally that conceptual and theoretical development yields to

the analysis of individual instances.

Blumer argues that for social theory to progress we need sensitizing concepts, not definitive concepts. It appears that this argument has been embraced most fully by qualitative research approaches such as grounded theory, see for example Bowen's 2006 paper "Grounded Theory and Sensitizing Concepts" (in *International Journal of Qualitative Methods*). In contrast, Tractinsky points to the research on the technology acceptance model as an example from which to learn in the development of a definitive concept of usability. Such a usability concept will consist of a network of constructs with relations of quantified strength. I tend to concur with Blumer. My article about the "Images of Usability" (*International Journal of Human-Computer Interaction*, 2010) is an examination of usability from a sensitizing point of view. However, my principal aim in writing this commentary has been to argue that research on human-computer interaction, in general, and research on usability, in particular, need to consider carefully which kind of usability concept is more usable and useful for our research. Such considerations involve choosing, or striking a balance, between a priori specification of the features common to a class of empirical instances and reaching what is common by making sense of the distinctive characteristics of the individual empirical instance. To put it somewhat provocatively, a definitive concept of usability ultimately relies on the specification of common features, whereas a sensitizing concept of usability ultimately relies on the application of common sense. Rather than presuming that one kind of usability concept is superior to the other, usability researchers should heed the virtues and vices of both kinds of concept.

Tractinsky thoroughly examines the usability concept from the point of view of definitive concepts. I look forward to the dialogue that his examination will spur about how to move forward with the concept of usability.